

What is claimed is:

1. A method for inducing angiogenesis in a muscle tissue comprising the steps of applying electrical
5 voltage to one or more areas of the tissue, wherein the electrical voltage does not induce contraction of muscle cells within the muscle tissue, and wherein angiogenesis is induced after application of the electric voltage.

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2. The method of claim 1, wherein the voltage is 0.1V at a frequency of 50Hz.

3. The method of claim 1, wherein the muscle cells
15 are smooth muscle cells.

4. The method of claim 1, wherein the muscle cells are skeletal muscle cells.

5. The method of claim 1, wherein the muscle cells
20 are cardiac muscle cells.

6. A method for increasing VEGF mRNA in a muscle cell comprising the step of applying electrical voltage
25 to the muscle cell, wherein the electrical voltage does not induce contraction of the muscle cell and wherein VEGF mRNA is increased after application of the electrical voltage.

7. The method of claim 6, wherein the voltage is 0.1V applied at a frequency of 50Hz.

8. The method of claim 6, wherein the muscle is a smooth muscle.

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9. The method of claim 6, wherein the muscle is a skeletal muscle.

5 10. The method of claim 6, wherein the muscle is a cardiac muscle.

10 11. A method for increasing VEGF in a muscle cell comprising the step of applying electrical voltage to the muscle cell, wherein the electrical voltage does not induce contraction of the muscle cell and wherein VEGF is increased after application of the electrical voltage.

15 12. The method of claim 11, wherein the voltage is 0.1V applied at a frequency of 50Hz.

13. The method of claim 11, wherein the muscle is a smooth muscle.

20 14. The method of claim 11, wherein the muscle is a skeletal muscle.

25 15. The method of claim 11, wherein the muscle is a cardiac muscle.